
Image, Memory and Ritual: Re-viewing the Antecedents of Writing

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This article addresses the visual culture of the Neolithic Near East, in particular that found on seals and sealings, objects often associated with information storage and administration. It considers the connection between those images and a broader Neolithic cosmology and, finally, the ways that both changed as cities replaced villages. The evidence is a set of imagery carved on small, portable objects such as palettes and seals, as well as their impressions on clay. By and large, seals have been studied as administrative and economic tools, part of a developing system of record-keeping in the millennia preceding the first writing. Their imagery, however, reveals elements of a basic cosmology, suggesting a religious context and meaning that precedes evidence of their use in administrative contexts. I posit that a) there are recurring motifs in the visual culture of the Neolithic Near East; and b) the subject matter of these motifs relates to religious beliefs and practices. I argue that to fully understand early seal use, we must proceed historically rather than ahistorically, first considering the primary association between these objects and cosmological concerns, and then broaden interpretations of later seal use, archive systems and ultimately writing, to consider how the content or meaning of the glyptic imagery may relate to those contexts.

Before writing was first developed in Mesopotamia in the late fourth millennium BC, a variety of objects were used to store information. The thousands of years preceding writing provide us with archaeological examples of precursors to writing, such as tokens, stamp seals, cylinder seals, and stone and sherd disks. Evidence has linked examples of all these objects to information storage or archive systems (e.g. Costello 2000; 2002; Ferioli *et al.* 1994; Schmandt-Besserat 1992; 1994). As vehicles for information storage, therefore, they can be collectively referred to as ‘memory tools’, objects allowing for the external storage and control of information. The earliest glyptic imagery, however, dating to approximately 9000 to 6000 BC, cannot be linked to any clear context of use.

Near Eastern seals were first studied as image-bearing objects. Scholars such as Frankfort catalogued, dated and interpreted cylinder seals based on form, image and findspot (Frankfort 1939). Stamp seals received a similar treatment much later, collected in a catalogue in 1990 (Wickede 1990). Our

understanding of the ways in which seals were used in the Neolithic and Chalcolithic Near East has expanded in recent decades thanks to extraordinary finds from sites like Arslantepe in Turkey and Sabi Abyad in Syria, providing examples of thousands of clay sealings, many of which bore impressions. Thanks to that evidence, along with similar finds from other sites, there has been a methodological shift within glyptic studies to include approaches focused on sealings, in which seals are viewed as tools more than image-bearing objects (e.g. Ferioli *et al.* 1994).

One persistent challenge in the study of early seals is the question of how, precisely, such objects were used, and by whom. Complicating that question is the likelihood that the way the objects were used varied from site to site, and at different moments during these thousands of years. Despite claims of a single, evolutionary sequence from token to tablet (Schmandt-Besserat 1992), most scholars agree that the data to support a single reading of token use

over time is lacking. By the same reasoning we should not expect that seals were employed for the same purpose in every case. Instead, we find variety in the contextual record. For example, stone seals are abundant at Halaf sites, but seal impressions are rare, save for two sites (Tell Chagar Bazar and Arpachiyah). Seal impressions are abundant at late Neolithic Sabi Abyad, but the seals themselves are absent. Recognizing that we cannot fall back on a simple, unilinear account of information storage before writing, we must piece together our account of prehistoric information technology site by site. It will be worth the effort: a clearer picture of the ways in which seals were used during the Neolithic and Chalcolithic periods could illuminate areas such as social organization, regional and long-distance exchange, social memory and connections between early writing and earlier forms of information storage.

While a site-by-site contextual archaeology of seals and sealings would be an ideal approach, a second challenge in understanding early glyptic material is the scarcity of contextual data for the earliest artefacts. Seals and other glyptic material predate our earliest evidence of 'archive systems' by thousands of years. Given the lack of contextual data, one alternative approach is to return to an analysis of imagery. This article surveys a range of imagery: incised representations, both abstract and figural, from seals, seal impressions and palettes from *c.* 9000 BC up to the first writing at the end of the fourth millennium BC. It is argued here that the imagery is largely religious, and refers to a commonly-held cosmology. Related imagery from other media is included to broaden the basis for interpretation.

It is only in recent years that researchers have allowed themselves to consider the 'cognitive' aspects of Neolithic society: the thoughts, beliefs, fears and hopes that shaped society as lifeways dramatically changed. Many archaeologists now recognize that people are not mere respondents to their environments, that they act not only to 'optimize' their subsistence practices but also to engage with the world spiritually, artistically and socially. Recent work by scholars such as Ian Hodder, David Lewis-Williams and Steven Mithen argue for religion as a primary motivator in the Neolithic, as opposed to simply environment (Hodder 2006; Lewis-Williams & Pearce 2005; Mithen 2004). More particularly, scholars such as Esin, Hole, Pittman and Rothman have suggested a religious interpretation of some early seal imagery (Esin 1994; Hole 2010; Pittman 2001; Rothman 1994).

This study of examples of the visual traditions of the Neolithic Near East reveals the close association between a religious cosmology rooted in greater

northern Mesopotamia and glyptic imagery. The religious iconography found on seals continued into the late Neolithic and Chalcolithic periods, when seals were clearly functioning as part of a record-keeping system at some sites. The connection between the cosmological elements of the glyptic and the use of seals in recording can only be speculated upon; while the meaning of the images may have shifted over time, we know from later periods that sealing as a practice was powerful, and later seal imagery was often religious. When writing became the primary means of recording in southern Mesopotamia, the connection to religion seemingly continued, since the technology of writing was in the hands of personnel of the urban temple. The temple institution of the urban period, however, was associated with an increasingly formal and hierarchical religion. The association of memory tools with religion, both in the Neolithic, as argued below, and in the urban period, as evidenced by the findspots of early tablets in temple precincts, shows that we should consider the role of religion as we theorize early recording and the development of writing.

By contextualizing seal use and the development of writing within the history of religious belief and practice in the Near East, I emphasize the social context of information technology — the struggles and choices of societies in flux. Instead of a monolithic milestone, dividing prehistory from history, the development of writing was part of a dynamic process through which cosmologies shifted, power hierarchies were rearranged, and society reorganized itself in a new urban setting.

Current views of the precursors to writing and the earliest writing

The first known writing system dates to approximately 3200 BC from Uruk, the centre of southern Mesopotamia's burgeoning urban society and a city of unprecedented scale (Fig. 1). The growth of population, monumental architecture and powerful political institutions went hand in hand with economic changes, such as increased trade and labour reorganization (Algaze 2008; Pollock 1999, 94). Along with these rapid, sweeping economic and political changes came another key development: writing.

The earliest attested writing, called protocuneiform, consisted of numerical notation combined with ideograms. The fact that early writing was so closely linked to numerical notation and record-keeping has helped shaped research on the subject, drawing attention to the administrative and accounting needs that presumably drove the invention of writing. For exam-

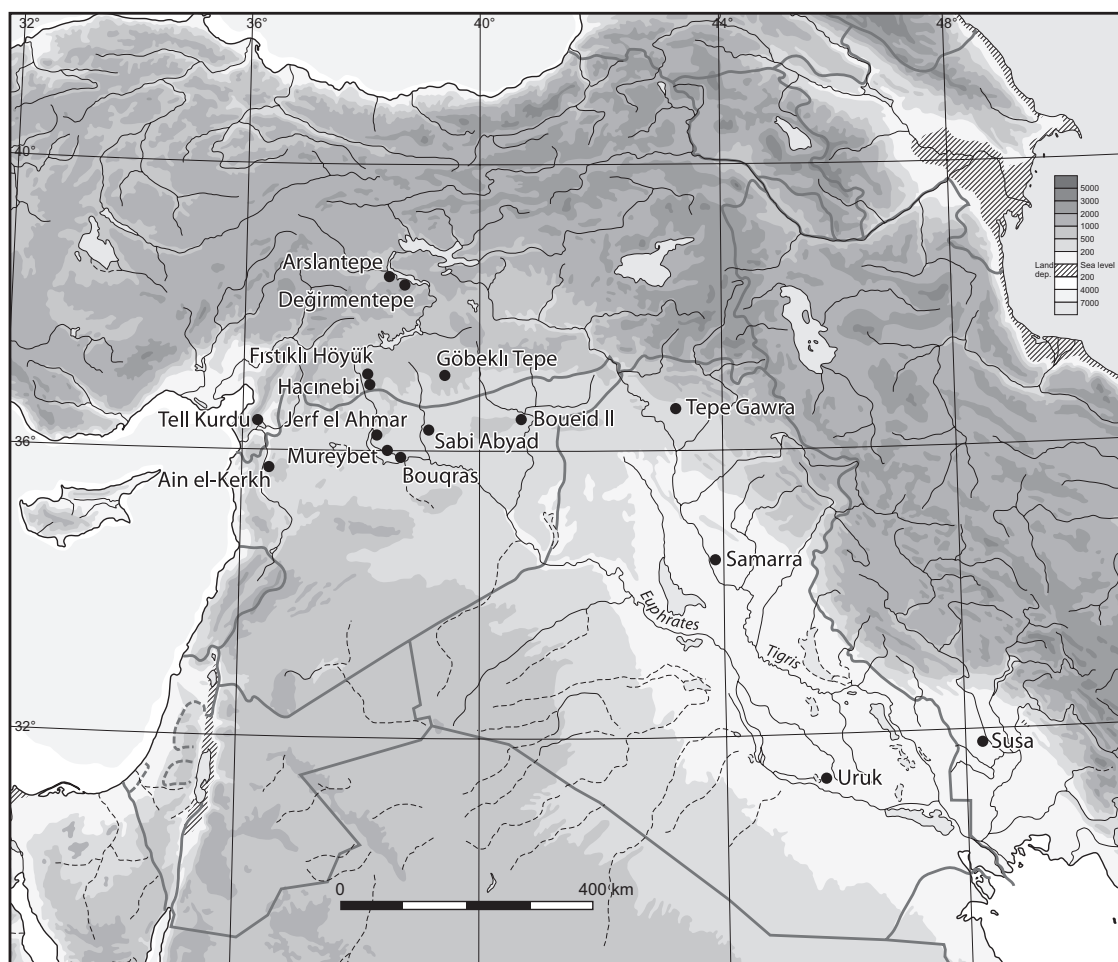


Figure 1. Map of sites mentioned in the text.

ple, Nissen, Damerov and Englund, in their discussion about early writing, state that ‘the development began with arithmetical techniques and not with a need to proliferate knowledge or linguistic communication’ (Nissen *et al.* 1993, xi). In his recent summary of the issue, Cooper professes, ‘I have long believed that the particular aspect of that complexity that led to the invention of writing was administrative, tracking income, disbursements, and transfers within large organizations...’ (Cooper 2004, 72). In her introduction to a study of literacy in the broader region, Lomas notes that early writing in Mesopotamia is ‘closely linked to the keeping of records and accounts’ (Lomas 2007, 13). The wealth of documents, especially from late fourth-millennium Uruk, confirms this supposition; the tablets list commodities, transactions and the temple personnel involved in the transactions (Robson 2007, 44). The first written tablets in Mesopotamia, along with related objects such as tokens and seals, are thus generally viewed as functional solutions to

an administrative need, and as closely tied to the rise of the state. However, as Michalowski observes, ‘even the administrative use of writing involves complex psychological, ideological, and social issues that cannot be accounted for by purely utilitarian explanations’ (1994, 56). Those psychological, ideological and social factors require more attention.

Before writing was developed, a wide range of objects and images was chosen by different societies of the Near East over the course of 5000 years to store and communicate information. Our understanding of how writing developed from these memory tools was advanced by the work of scholars such as Pierre Amiet and Denise Schmandt-Besserat, who argued against the rapid invention of writing, and instead, for a gradual development from the use of tokens to impressed clay envelopes to numerical tablets and finally to protocuneiform, or pictographic and ideographic writing. However, given the scholarly attention paid to early writing in Mesopotamia, the same

emphases on administration and accounting tend to be projected backwards to the antecedents to writing, and research, especially that of Schmandt-Besserat, has focused on technologies for counting. Most scholars reject Schmandt-Besserat's full argument (for critiques see Glassner 2003, ch. 4; Jasim & Oates 1986; Michalowski 1993; Nissen *et al.* 1993; Shendge 1983; Zimansky 1993), but accept the premise that, at least for the time period just prior to the development of writing, the range of items she describes likely served as antecedents to the proto-cuneiform writing system (e.g. Englund 2004, 119; Postgate 2005, 278).

Englund, for example, states that the small amount of stratified material from Susa from the late fourth millennium supports Schmandt-Besserat's evolutionary scheme, and defines the phases of that evolution as a period of early tokens, a period of clay envelopes, a period of early numerical tablets, a period of late numerical tablets, and finally a period of numero-ideographic tablets (Englund 2004, 122). The definition of these periods reveals his focus on accounting notation. In his brief explanation of these phases, the presence of seal impressions are noted, but the imagery of the seals is not discussed. This omission is symptomatic of one of the flaws in the evolutionary explanation espoused by Schmandt-Besserat and others: in its emphasis on the role of tokens, other memory tools such as stamp seals and cylinder seals are seen simply as accessories to the counting process.

In contrast, some scholars see the interpretive potential of early glyptic imagery (e.g. Hole 2010; Pittman 2001, 412; and for seals of the proto-literate period Brandes 1979; Dittman 1986; Nissen 1977; Pittman 1994). Like Hole and Pittman, I find that the images on early seals carry meaning and significance that is in many cases religious, which adds a very particular dimension to our interpretation of these objects. By emphasizing the image, and the meaning of the image, I seek to broaden our understanding of the social context of memory tools. In so doing, I hope to also broaden our understanding of the social context of early writing, so that in addition to recognizing its bureaucratic function, we can see it as part of a long visual and symbolic tradition rooted in religious belief and practice.

In the section that follows, I will discuss examples of image-bearing memory tools from the Neolithic period through the fourth millennium BC. I will then consider Neolithic imagery from other contexts, such as the paintings on walls and pots, to demonstrate how the seals and other objects were part of a dominant tradition of Neolithic imagery, one that I argue is related to cosmology.

Looking back: image-bearing memory tools in the pre-literate ancient Near East

In the pages that follow, a selection of image-bearing seals, sealings and other glyptic is discussed. Over several thousand years, similar iconography is found on these objects. This iconography includes a raptor, quadruped and snake, sometimes shown as a set, and sometimes with plants and humans included. I offer examples of this imagery, followed by an interpretation, in which I argue that the imagery refers to widespread and long-held religious belief and practices.

From the very earliest settlements in the Near East (Pre-Pottery Neolithic A, c. 10,000–8700 BC) were found examples of glyptic imagery. 'Palettes' of baked clay with symbols carved on them were found at Mureybet and Jerf el Ahmar, along with a few carved grooved stones. The carved designs include a scorpion, serpent, quadruped, bird and abstract markings such as cross-hatching and wavy lines (Fig. 2; Arnaud 2000; Stordeur & Jammous 1995; Stordeur & Lebreton 2008).

Comparison of these palettes and carved grooved stones to other artefacts of similar date reveals their precocity. They may relate to the grooved pebbles found earlier in the Levant, during the Epipalaeolithic Natufian period. Those are characterized by simple, geometric designs rather than figural ones. Cauvin suggests a symbolic, rather than functional, explanation for the Natufian objects, seeing a resemblance between the appearance of the groove and a vulva (Cauvin 2000, 48). Cauvin's suggestion of a symbolic connection to female fertility stands in marked contrast to the functionalist view of the objects as straighteners for arrow shafts (Byrd 1989; Solecki & Solecki 1970).

The imagery on the palettes is depicted rather schematically, making the identification of particular elements challenging (Fig. 2). In no. 1, however, the motifs are fairly clear: there is a bird with outstretched wings, a quadruped, a pair of wavy lines and a wavy line with an arrow-like point on the end. On the verso are parallel lines cut by a deeply incised groove. The motifs on no. 2 are more schematic, but at least one quadruped is clear, and the element at the right, or top of the composition, could be seen as another bird with outstretched wings on the basis of comparison with no. 1. Additionally, there are numerous wavy lines, some with round heads, some with arrow-like points. The verso of no. 2 has one deep groove incised along it. The recto of no. 3 includes an insect or scorpion, a pair of hollow circles, parallel crossed lines and a wavy line with a semicircular head. On the verso is a repeated series of 'U' shapes and dots. While schematic, on no. 4 a quadruped with a long tail is clear, and several

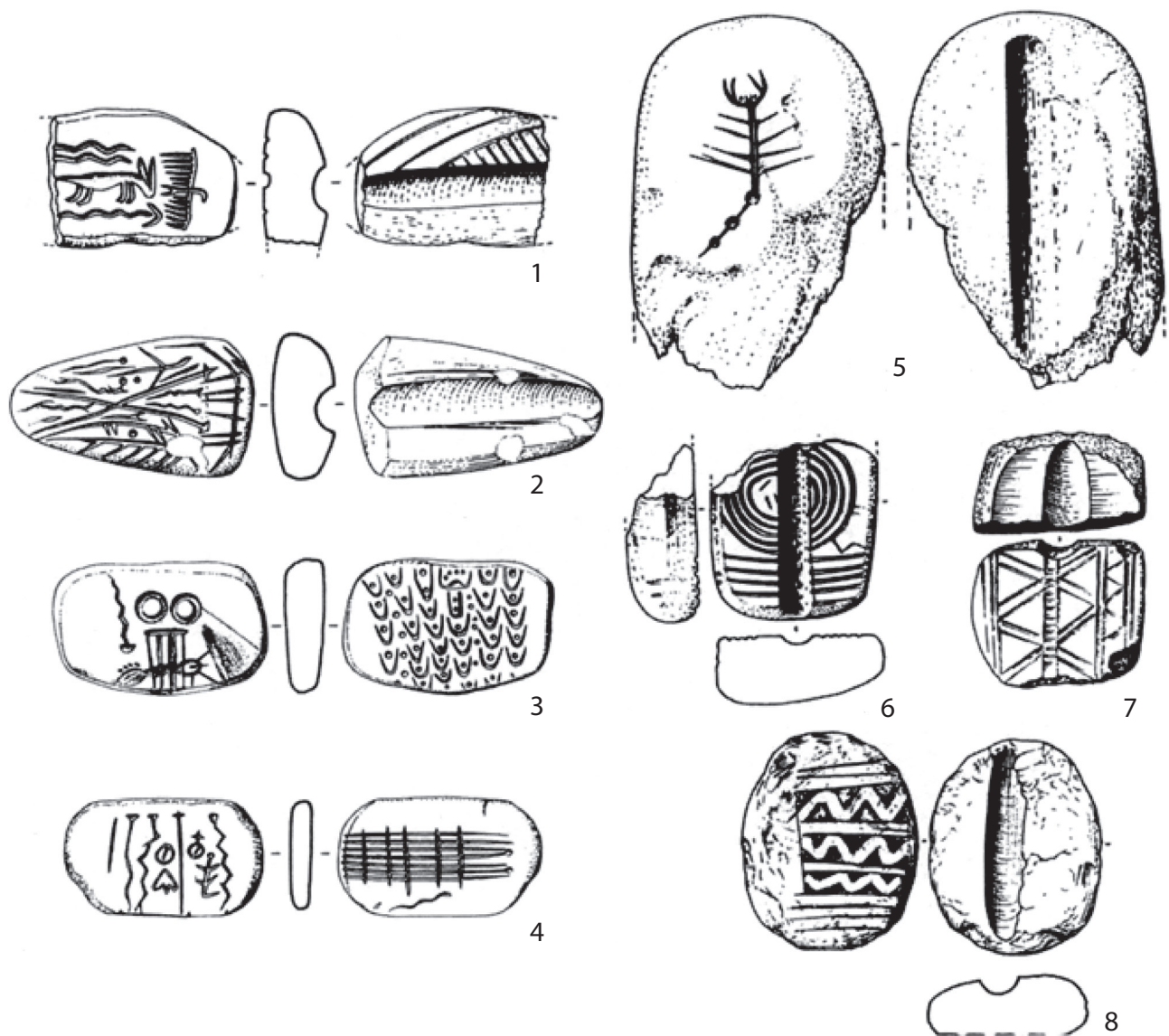


Figure 2. *Incised palettes from Jerf el Ahmar and Mureybet. (Reproduced with permission from D. Stordeur.)*

symbols or shapes: a circle with a slash through it, a circle and cross, a spade or leaf, and straight, wavy or zigzag lines, some with a flat head. The verso has a cross-hatched design. On no. 5 is a scorpion, on the recto, and a deep groove on the verso. On the side of no. 6 for which an illustration is provided is a series of concentric circles and parallel lines, through which a deeper groove was incised. Differing slightly is no. 7, on which there is a chevron pattern on the recto, with a groove incised not on the verso, but on an adjacent side. Finally, the recto of no. 8 shows three registers enclosing wavy lines, with a groove incised on the verso.

The motifs chosen for these pieces closely resemble iconography seen in later glyptic as well as wall-painting, discussed below. In particular, I point out the combination of quadruped, raptor and the wavy lines with a pointed or flat head, which resemble snakes. These images together comprise one of the dominant visual traditions in the Neolithic Near East. A second possible tradition is comprised by the abstract imagery — the cross-hatching, concentric circles, zigzags, dots and parallel lines, further discussed below.

A recent find places the Jerf el Ahmar and Mureybet palettes in a wider context. A similar palette was found at the tenth-millennium BC site of Göbekli Tepe



Figure 3. Incised palette from Göbekli Tepe. (Photograph courtesy of K. Schmidt.)

in southeastern Turkey (Fig. 3). Like the example from Jerf el Ahmar discussed above, it has figural imagery, including a bird (right) and a snake (left). The central image is too schematic to interpret with certainty, but given the 'T'-shaped, anthropomorphizing sculpture at the site, it is tempting to see the mark as a human with outstretched arms, what I discuss below as an orant gesture.

It should be emphasized that there is no evidence that the palettes were used as seals, that is, to impress a design on plaster or clay. Nevertheless, the similarity in both concept (an intaglio image on a small portable object) and motifs to later stamp seals suggests that the stamp-seal tradition may have developed not only from earlier uncarved pendants, as has been suggested (Wickede 1990, 39), but also from these incised stone and clay palettes.

The next period of the Neolithic, the Pre-pottery Neolithic B (PPNB, c. 8700–7000 BC), is notable for the first appearance of stamp seals (Wickede 1990, 39–40). The earliest evidence comes from late in the PPNB from several sites in Syria, where impressions are preserved on plaster (Maréchal 1984, 224; Wickede 1990, 47). One of these early impressions, from Bouqras, shows a solitary quadruped, probably a caprine,

depicted similarly to those found on glyptic in the later Neolithic and Chalcolithic, discussed below (see Fig. 4; also Wickede 1990). Other motifs on seals and impressions from the PPNB are zigzags and chevrons (Wickede 1990), which recall the abstract motifs seen on the PPNA palettes.

From the later Pottery Neolithic comes the so-called 'Burnt Village' of Sabi Abyad (c. 6000 BC), a site not far from Jerf el Ahmar, in the Balikh Valley in northern Syria. The 'Burnt Village' refers to level 6 of Sabi Abyad, which was destroyed by a serious fire, allowing a great number of artefacts to be recovered *in situ*, including approximately 300 clay sealings (Duistermaat 1996, 342). To clarify the terminology, the *seal* is the button-like object used to impress a design on clay or plaster. A *sealing* is a piece of clay used to seal, that is to close, something — a container or a door. Sometimes, sealings are impressed, meaning they bear the mark of a *seal impression*. Many of the sealings from Sabi Abyad are impressed, and are in fact the earliest known seal impressions on clay.

The motifs on the impressed sealings vary considerably, including caprines, humans, zigzags, chevrons, stylized bucrania and cowrie-shell impressions (Fig. 4; Duistermaat 1996, figs. 5.3–5.21). The grouping of quadruped–raptor–snake seen on the early Neolithic palettes is not, strictly speaking, found on the Sabi Abyad impressions. However, the caprine is the most common motif found on the level 6 (Fig. 4; 17 per cent of total impressed sealings); 'S'-shaped motifs are the second-most common (10 per cent of total); and zigzags are the third-most common (5 per cent of total) (Duistermaat 1996, 353). While these last two may be interpreted as abstract designs, the zigzag resembles the form of the raptor, and the 'S'-shaped motif resembles a snake (Duistermaat 1996, fig. 5.3). Thus taken together, these three most common motifs echo the grouping from the early Neolithic palette. Many of the rest of the motifs are vegetal. One important motif introduced in the Sabi Abyad glyptic is the human figure, a motif representing 3 per cent of the total impressed sealings (Fig. 5; Akkermans & Verhoeven 1995, fig. 13; Duistermaat 1996, figs. 5.5, 5.6). This is no ordinary person, but rather one with unnaturally large eyes, and in cases where the full body is shown, a distorted head or large headdress.

Many of the impressions were found in a single building, alongside tokens, clay disks and figurines, providing the earliest clear example of a complex system of memory-tool use, considered by the excavators to represent, in fact, an 'archive' (Duistermaat 1996, 397). While much has been made of this precocious archive, less has been said about the possible symbolic, even ritual, context of the impressions. In her initial

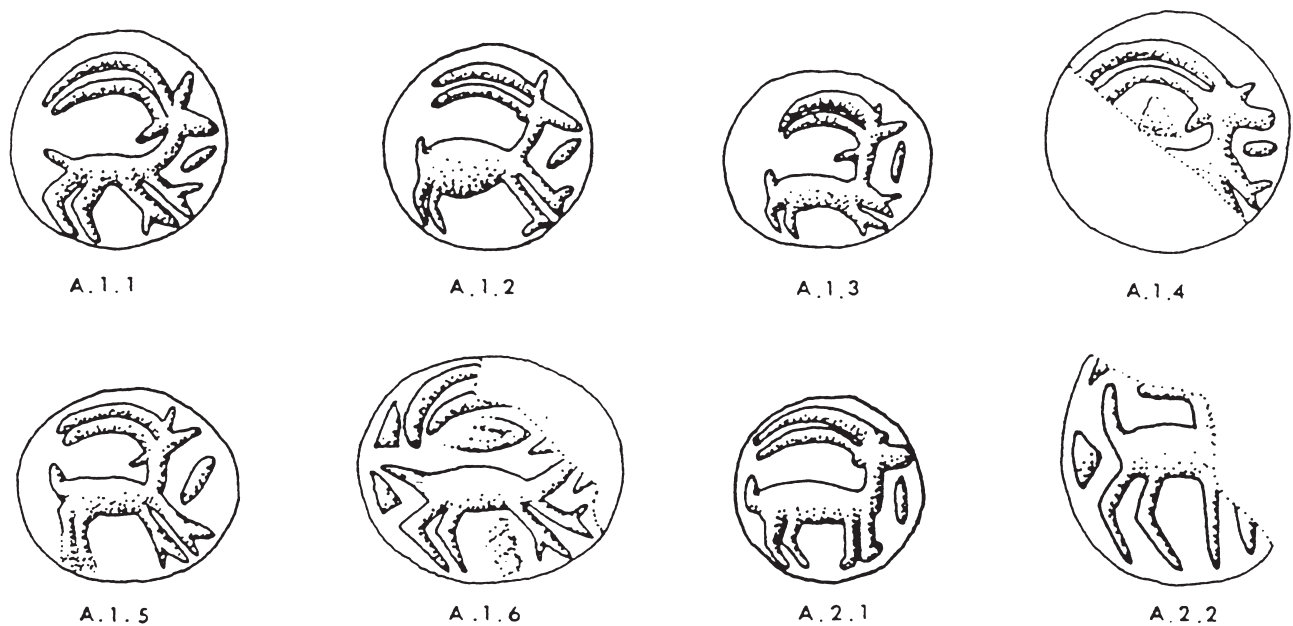


Figure 4. Seal impressions, Sabi Abyad. (Reproduced from Duistermaat 1996.)

report on the seal impressions, however, Duistermaat calls attention to this possibility, noting that the co-occurrence of sealings

with figurines, miniature vessels, etc., may also suggest that sealings are not only administrative features but have another, symbolic meaning as well. Figurines and the like may refer to the ritual, spiritual world, and perhaps the sealings ... acted within this ritual framework as well (Duistermaat 1996, 370).

While Sabi Abyad marks the earliest well-documented instance in the Near East of use of seals and tokens used together to remember and communicate information, the people of this village were drawing on a long history of use of these objects and the imagery found on them. Recent finds from Tell Ain el-Kerkh, Syria include approximately a hundred stamp seals and six clay sealings (Hudson *et al.* 2003); late Neolithic Tell Boueid has produced two impressed sealings (Nieuwenhuys & Suleiman 2002). Those finds demonstrate that the sealing practices at Sabi Abyad were not unique. The seal carvers drew from a body of motifs that had been in use for some time, as evidenced by the very early images at Jerf el Ahmar, as well as the PPNB examples discussed above. The motifs seen at Sabi Abyad, including the pointy-headed anthropomorphic figure, caprines and vegetal filling motifs, continue in the periods that follow.

Seals and/or impressions were found at many other later late Neolithic settlements, in particular those exhibiting Halaf traits. Most Halaf seals are carved with geometric motifs such as cross-hatching,

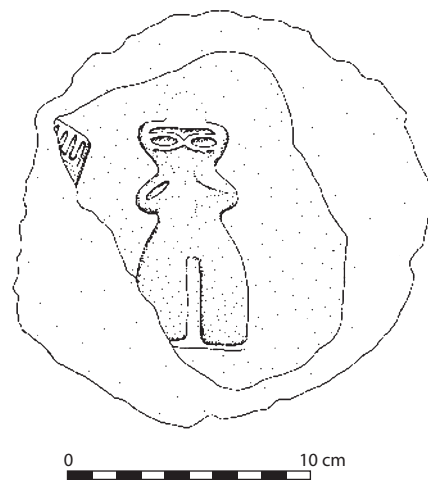


Figure 5. Seal impression, Sabi Abyad. (Reproduced from Akkermans & Verhoeven 1995, fig. 13.)

dots, concentric circles and various versions of crosses. These geometric motifs recall those of the early Neolithic palettes from Jerf el Ahmar, and related examples from Mureybet (Stordeur & Lebreton 2008), what I have identified as a possible second visual tradition. As will be further discussed below, Halaf figural imagery is mostly confined to painted pottery. One figural seal, however, was found, at the Halaf-related site of Tell Kurdu in the Amuq region of Turkey (Fig. 6; Özbal *et al.* 2004, fig. 13.11). The seal is an example of the recurring motif of raptor and prey: a raptor carries off a fish or snake.

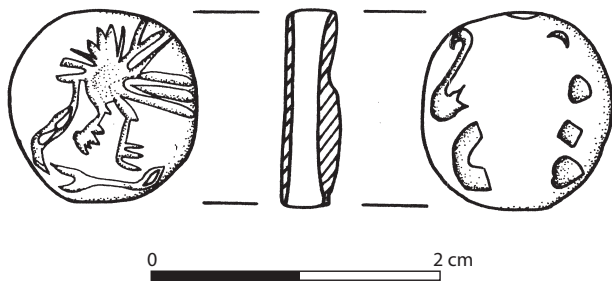


Figure 6. Seal, Tell Kurdu. (Özbal et al. 2004; Image courtesy of R. Özbal.)

Moving forward in time approximately 2000 years, we find evidence remarkably similar to that from the late Neolithic settlement of Sabi Abyad. Değirmentepe is located north of the other sites discussed so far, in southeast Turkey on the upper Euphrates (Fig. 1). From a phase at Değirmentepe dating to approximately 4000 BC, 24 stamp seals were found, characterized by geometric and figural images. In addition, approximately 450 sealings were found, some of which were impressed (Esin 1994). The variety of motifs, and in particular the way they are combined, calls to mind not only Sabi Abyad but also the palettes from Jerf el Ahmar.

Motifs similar to those at Sabi Abyad include the single quadruped with filling elements, vegetal motifs, such as rosettes and plant stalks, cowrie-shell shapes, triangles, stylized bucrania and humans. The single quadruped is shown, as at Sabi Abyad, in profile. Like the Sabi Abyad caprines, these have curved horns. The filling elements around the quadrupeds vary, but include vegetal motifs and schematized birds in flight (e.g. Esin 1994, figs. 6.4, 6.8). We also find clearly-depicted birds and snakes; one seal in particular combines those two elements to show a raptor with outstretched wings above a snake that curls around the curve of the round seal, with filling elements surrounding the group, including a plant stalk (Esin 1994, fig. 6.4). This composition, so like that at Jerf el Ahmar though chronologically very distant, suggests that these motifs carried powerful associations. While the associations may have shifted over time, their repeated appearance on glyptic art over these thousands of years in the same regions suggests some continuity in traditions.

Another important motif in the Değirmentepe glyptic is the anthropomorphic and therianthrope figure; it is not always possible to distinguish between the two, depending on the preservation of the seal impression. There are a number of seal impressions with a single human figure, or bird-headed human figure (Esin 1994). These, like the quadrupeds



Figure 7. Seal impressions, Susa. (Hole 2010, after Amiet 1972; Reproduced with permission from F. Hole.)

discussed above, are generally placed centrally, with animals, birds, or other elements filling the space around them. They are shown frontally, often with hands out, not unlike the raptor with outstretched wings. I describe this as an orant gesture; the term is borrowed from Christian iconography, but is useful in identifying this recurring gesture in Neolithic and Chalcolithic imagery. I do not mean to suggest through the usage of the term that the figure is praying; however, a religious context is likely, as discussed below. In other examples, the human figure has elongated, sinewy arms; the excavator suggests the figure may hold snakes (Esin 1985, pl. 4:3–4); in one example the figure appears to hold a bow (Esin 1985, pl.4:1).

From the end of the Ubaid period, from the Susa A phase at Susa, come several impressed sealings that also feature a human figure with an orant gesture (Fig. 7; Hole 2010, fig. 14.8e–j). In these, the human figure again has a distorted head or is horned. In several, there is a rich array of symbols surrounding the human figure, and even additional human figures. Hole sees these images as one indicator of an elaboration of ritual during a time of stress at Susa, with the central figure a ritual specialist (Hole 2010).

Finally, several examples that bring us close in time to the first writing. These seals and impressions come from sites dating to the fourth millennium BC, the period of developing urbanism in southern Mesopotamia. The sites from which the examples are drawn, Tepe Gawra, Arslantepe and Hacinebi Tepe, are located in northern Mesopotamia, in the same region as the sites discussed above. Arslantepe is near Değirmentepe; Hacinebi is in southeast Turkey, and Tepe Gawra is further east, near the Tigris river. At each site, seals and/or seal impressions were found. The images on the glyptic from these sites share similarities such as single examples or pairs of animals, anthropomorphic or therianthrope figures and filling elements.

The motifs on these seals and seal impressions are familiar. For example, among the local-style

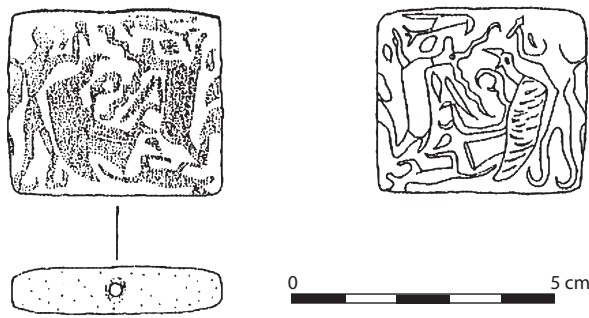


Figure 8. Seal, Hacinebi Tepe. (Reproduced from Pittman 1999, fig. 1.2 with permission from H. Pittman and G. Stein.)

glyptic from Hacinebi, caprines are the most common motif (Pittman 1996, 232). While most of the evidence at Hacinebi was from seal impressions, several seals were found, including one depicting a single, curled snake surrounded by large dots (Pittman 1999, fig. 1.1). Another seal includes a set of motifs recalling the PPN A Jerf el Ahmar palette; here, the bird-quadruped group known from earlier glyptic imagery is joined by a powerful human figure (Fig. 8; Pittman 1999, fig. 1.2). On the rectangular seal face, a large raptor with a menacing claw hovers over a quadruped. Another bird and quadruped flank that image, while above, a human figure with curled-toe shoes and, perhaps, a distorted head, holds a mace-like object over the scene. The human figure is oriented differently than the animals; either a single orientation was not sought, or the human figure is floating above the animals. Various leaf-shaped filling elements surround the figures. This seal, along with the one depicting a snake, dates to the earliest phase of Hacinebi Tepe at the beginning of the fourth millennium BC, prior to contact with southern Mesopotamian polities.

A large corpus of seals and sealings was discovered at Arslantepe, in eastern Turkey. Many of these were found in association with a mid-fourth-millennium temple building; as the excavator points out, 'a concentration of clay sealings outside the cella again stresses the connection of the cult activity with the economic-administrative practices' (Frangipane 1997, 49). This is a rare case in which a cult structure has been identified, and seal impressions found in a good context, associated with it. That association supports the argument that seals had a religious role, as well as an administrative one.

A common motif from the Arslantepe corpus is the orant; this figure is shown on circular impressions with a quadruped (Wickede 1990, no. 400); in at least one case, this animal has the long tail of a feline



Figure 9. Seal impression, Tepe Gawra Level XIII. (Wickede 1990, no. 250.)

(Wickede 1990, no. 401). In that example, the human figure holds an implement of some sort and may be wearing a skirt. In a similar image from another circular impression, the orant is flanked by a quadruped to one side and possibly a bird above on the other side.

In addition to the orant, other familiar imagery on the Arslantepe glyptic includes the snake, raptor, quadruped and plant-like filling motif. The single quadruped with a plant-like filling motif on a round impression, first seen in the PPNB, continues here (e.g. Wickede 1990, nos. 368–71); pairs of quadrupeds are also common (e.g., Frangipane 1994, fig. 5 nos. 1–3, 5, 8).

Similar motifs are found on the glyptic from Late Chalcolithic Tepe Gawra, including paired quadrupeds and birds (Wickede 1990, no. 245) and a bird-headed orant with a quadruped, bird, and snake (Fig. 9; Wickede 1990, no. 250). The theme of bird-quadruped-snake is present on a round seal impression showing a raptor over a horned quadruped and arrow or snake (Wickede 1990, no. 296). We also find bird-headed humans ringed by horned quadrupeds (Wickede 1990, nos. 246, 252), and a human figure ringed by intertwined snakes (Wickede 1990, nos. 261, 268). The familiar motif of a single-horned quadruped with vegetal filling elements is found here as well (Wickede 1990, nos. 256, 259, 260, 266).

The examples above were selected because the sites represent a chronological cross-section of the Neolithic and Chalcolithic Near East, and also are particularly rich in glyptic. Taken together, they illustrate that the raptor-quadruped-snake motifs, alone or in combination, repeat across this broad segment of time. The human figure is introduced in the late Neolithic, and often has a distorted head and orant pose. The second visual tradition, that of geometric motifs like zigzags, wavy lines, and cross-hatching, is also present throughout the Neolithic and Chalcolithic glyptic.

Related imagery

Thus far I have illustrated a visual tradition as seen on glyptic objects. There are, however, examples of similar imagery from other media. I discuss this evidence elsewhere (Costello in press) but outline a few instances here to put the images from seals and sealings in a broader visual context.

For example, at PPNA Göbekli Tepe, a non-residential architectural complex (the site predates sedentism in the region) featured monumental stone pillars carved with wild animals, including raptors (some with outstretched wings), water birds, scorpions, lions, bulls, boars, snakes and other quadrupeds (Schmidt 2006). The excavator sees these carved images as mnemonic tools, used to maintain ideas and traditions through generations (Schmidt 2006, 206). The range of subject matter found at Göbekli is unmatched in any other corpus of early Neolithic imagery, making it difficult to compare. However, the presence of raptors, quadrupeds, and snakes suggests an affinity to the examples discussed above.

Another notable collection of imagery from the Neolithic Near East is the corpus of wall painting from Çatalhöyük (Hodder 2006; Mellaart 1967). This remarkably well-preserved town dating to approximately the seventh millennium BC is well known for the strange paintings and wall reliefs found in its conglomerate houses. The wall decoration includes the plastered and painted skulls of bulls and vultures, plaster reliefs of breasts, headless humans, leopards and hunting scenes, as well as images that remain enigmatic. As at Göbekli Tepe, the 'wild' is emphasized through often frightening imagery.

Another place we find imagery is on painted pottery, most notably that of Samarra and Halaf societies in the seventh and sixth millennia BC, or late Neolithic period. Most of the pottery is painted with non-figural motifs or abstracted natural forms, such as birds and plants, in which the motif is stylized and repeated so that it appears non-figural. There are several exceptions, however, that include more complex, even narrative, compositions. A Samarran bowl from Samarra, Iraq is decorated with at least five human figures with either long hair or a headdress with streamers. The figures are in the orant pose, shown frontally with arms and hands extended. At the foot of each human figure is a large scorpion. As Schmandt-Besserat observes, the scorpions are similar to the human figures in how they are portrayed; their large pincers mimic the orant hand gesture of the women. (Schmandt-Besserat 2007, fig. 1.5). From Fıstıklı Höyük, a small early Halaf site near the Euphrates in southeastern Turkey, comes a sherd that seems to have been reshaped into a rec-



Figure 10. Painted sherd, Fıstıklı Höyük. (Courtesy of R. Bernbeck and S. Pollock.)

tangle, apparently curated. It shows a human figure with the orant gesture and wild hair, or perhaps a headdress of some sort. The figure may be bearded, but there is also the suggestion of a breast, so the sex is ambiguous. Next to the figure is a bird, apparently on top of a structure (Fig. 10; Bernbeck *et al.* 2003, fig. 22g). This, and other rare images of humans on Halaf pottery, show humans in unusual roles: wearing costumes, with distorted heads, and pictured with or interacting with unusual composite creatures or birds (for further examples see Costello in press).

Outside of Çatalhöyük preserved wall painting is rare, but an example survives from the fourth-millennium settlement of Arslantepe, discussed above. It comes from an area identified by the excavators as a combination of temple and storage (Building IV), and shows a figure in the orant pose. The pose is emphasized, as are the wide-open eyes, the wild hair, and the penis (Frangipane 1997, fig. 3).

These examples demonstrate that the body of imagery discussed here represents a strong visual tradition in greater Mesopotamia during the Neolithic. Glyptic objects were among the media on which images of humans in altered physical forms, vultures, snakes and quadrupeds were found. Fixed media such as stone megaliths or house walls and even painted pottery, likely represent different arenas of behaviour in which these images were meaningful; the Göbekli megaliths certainly suggest that people were 'writing' on their landscape, using a grammar of imagery that held meaning across the span of Neolithic time and space.

Interpretation

The time span discussed here is long, and the geographical extent of greater Mesopotamia is wide. We should assume, therefore, that the meanings of particular images shift from case to case. However, certain broader meanings of this visual tradition seem to have been consistent. Recurring elements suggest that the imagery is religious in nature. Considering the broader context of the Neolithic, it is argued that the beliefs and practices reflected in, and possibly structured by, the images, are linked to the processes of domestication and sedentism that characterized the Neolithic.

I argue that, broadly speaking, the imagery on these particular objects demands that the objects be seen in terms of a cosmological significance. The repetition of particular images and gestures speaks to the importance of those images and gestures. The symbolic potency, cross-culturally, of certain of these images, for example, raptors and snakes, allows a hypothesis to be formed regarding their general, though not specific, meaning, as I discuss below. Thus I employ cognitive universals to interpret meaning *to a point*. I argue that these objects had religious significance, and refer to the human position within the cosmos, in particular the struggle for increased human control over natural resources. I will not assign more particular meaning than that to these objects, or argue how exactly the seals and sealings may have stored information, or what that information was: stories, experiences, resources, etc. This limitation distinguishes the goals of this study from the work of, for example, Schmandt-Besserat, who asserts a universalizing explanation of the particular commodities represented by tokens, or Lewis-Williams and Pearce's reconstruction of particular ritual practice during the Neolithic in the Near East (Lewis-Williams & Pearce 2005; Schmandt-Besserat 2007).

In the imagery described above, several religious elements can be recognized, including the importance of a three-tiered cosmos, the presence of a religious specialist, who may be masked or transformed, and possibly ritual practices, such as dancing that could lead to trance and soul flight. These elements are discussed in more detail below, but in summary, the tiered cosmos is seen in the repeated set of bird-animal-snake imagery, each element of which corresponds to one level of the tiered cosmos. The ritual specialist is the human figure, portrayed with an orant gesture (i.e. an active agent) and/or a distorted head, suggesting costume or transformation. Soul flight may be alluded to in the bird imagery, and in particular the composite bird-human figures, as seen for example in the Değirmentepe glyptic. Winkelman

similarly asserts that bird-headed human figures in Pleistocene imagery likely refer to the shaman's soul-flight (Winkelman 2002).

These elements should be seen as components of a larger set of religious beliefs and practices that no doubt varied from site to site. It is also likely that religious beliefs and practices were to a large extent embedded in mundane activities. As such, the scope of Neolithic religion in its entirety is beyond the reach of the archaeologist. Recognition of these particular religious elements in the imagery does not affect a definition of Neolithic religion as a whole, but rather identifies one set of beliefs and practices, among many, that seems to have been broadly shared throughout the Neolithic period.

To elaborate on the representation of these elements, we see the three-tiered cosmos represented symbolically in the recurring motifs of bird-quadruped-snake: the bird as inhabitant of the sky, the animal as inhabitant of the earth's surface, and the snake, below the earth. The raptor and snake likely carry additional weight, however, in that both can represent not only movement from the surface to the sky or underworld, but also the cycle of life and death. Raptors feed on carrion, thus living through consumption of the dead. In many cultures, too, birds are associated with the gods, in that the gods inhabit the sky, and birds move from earth to sky. Birds can also carry the association of death (Eliade 1964, 480). Likewise, snakes are richly symbolic, almost chthonic in how they appear from cracks within rocks. They shed their skin, emerging transformed and renewed, or reborn. The third element of the triad is the quadruped, the inhabitant of the surface, alongside humans. The quadruped is often also, as discussed above, portrayed as a solitary figure with vegetal filling elements. Significantly, it was these resources — animals and plants — over which humans gained increased control during the Neolithic. In that way, the animal and plant images also represent life.

The ritual specialist appears in an altered form, often with a distorted head and exaggerated eyes, as on the Sabi Abyad seal impressions. The distorted head may indicate costume, cranial deformation (as found in some late Neolithic burials: see Erdal in press), or bodily transformation. The emphasis on the eyes calls to mind the eye idols of Tell Brak, as well as the third-millennium Sumerian votive figures with wide-open eyes. The significance of the open eyes is difficult to assess. Lewis-Williams and Pearce assert that an intensified form of vision is a likely universal experience in the altered state of consciousness experienced during trance. For example, the eyes of a shaman may be said to appear different than ordinary

eyes, and receive special treatment after death (Lewis-Williams & Pearce 2005, 70ff.).

A diachronic comparison of data indicates changes in the imagery from early to late Neolithic. The raptor, quadruped (wild, dangerous quadrupeds, in the case of the sculpture at Göbekli Tepe), scorpion and snake appear in imagery from the PPNA. At this early point in the Neolithic, humans were first settling down and bringing wild resources under domestic control. In the images of subsequent millennia, those elements are often joined by the human with a distorted head, or the orant, and 'filling elements' of plants or leaves. This change in imagery correlates to changes in subsistence: from the PPNB onwards, humans were relying more heavily on domesticated plants and animals. Thus the appearance in the PPNB at Bouqras of the single image of a quadruped with a vegetal filling motif could be understood as a representation of those resources, tamed and controlled. The animals are not dangerous, as they were in PPNA art. Likewise, the appearance of the human figure can be understood as part of this process. When it appears, the human figure is not passive, nor do humans play 'domesticated' roles as labourers, as they do in the glyptic of the proto-literate period. Rather, the humans we see in early art are bird- or animal-headed ritual figures, portrayed as active and powerful, controlling the elements of the Neolithic cosmos.

In the context of the developments of the Neolithic Near East, the images reflect the organizing principle of 'domestic versus wild', as has been articulated by Ian Hodder (1990; 1995). According to Hodder, Neolithic imagery and symbols express both the 'celebration and control of the wild', where the control of the wild relates to social orders, domesticated space, and male-female role distinction (1990). More broadly speaking, the 'domestic versus wild' dichotomy refers to the larger forces at work during the Neolithic. The term 'Neolithic' means 'New Stone Age', but it has come to be used as a label, in various parts of the world, for the time period when humans settled down in one place and domesticated plants and animals, rather than relying solely on hunting and gathering. That explanation, like so much of the scholarship on the Neolithic, is based on an economic and materialist focus on modes of production. And yet, it is a useful paradigm, applying in fact to non-economic aspects of life, as well. Increasing evidence shows us that people settled down in villages before they began to farm, in some cases at least, for spiritual reasons. The process of settling down in one place, of learning to live together, acts to differentiate the village and the house as a 'home', as something distinct from the 'wild'. Furthermore, as people did learn to

domesticate plants and then animals, that structuralist division of 'home', or 'domestic', in contrast to 'wild', took on a broader implication, dividing both plants and animals into domestic or wild categories.

As certain plants and animals came under human control, we see these elements enter the worldview in the art, along with the human figure controlling these forces. The fertility and fecundity of those resources, their very life and death, was newly within the power of humans to control. Humans had taken these wild forces, the life and death of the earth's wild resources, and learned to control them. The fact that the human figure so often seen in these images has a distorted head and/or an orant pose reminds us that human control over this life-cycle had a place within the realm of religion and ritual. The basic figural elements of the glyptic can be thus understood, but the non-figural elements pose an even greater challenge. Simple geometric designs, such as cross-hatched lines, chevrons and wavy lines appear on palettes and stamp seals throughout the Neolithic and Chalcolithic periods.

While simple geometric patterns and motifs are even more subject to polysemy than the figural elements discussed above, it is worth considering a possible explanation. One such explanation has been offered by Lewis-Williams for a similar set of symbols from the Palaeolithic period. As he explains, such imagery is often associated with the first stage of a state of intensified consciousness, of the type a person would experience in a meditation, a trance, sensory deprivation or under the influence of a hallucinogenic drug (2002; Lewis-Williams & Pearce 2005). The experience, says Lewis-Williams, can be likened to the process of falling asleep and dreaming: one experiences a spectrum of shifts in consciousness from alert wakefulness to dreaming sleep. However, the spectrum of intensified consciousness is more vivid than what one experiences when falling asleep. In intensified consciousness, one can pass into altered states of consciousness involving visions and hallucination.

Lewis-Williams asserts that the process of moving through these states of consciousness is a result of our neurology. It is, he writes, 'part and parcel of what it is to be fully human' (Lewis-Williams 2002, 126). How the brain forms images and interpretations from that experience is largely culturally determined, but the neural process is universal. On the basis of various studies of hallucinations, Lewis-Williams identifies three stages in the experience. The stages are variable; one doesn't necessarily pass through all, and one might skip the first one or two and pass directly into the third (Lewis-Williams 2002, 130). The three stages are briefly summarized here, with an emphasis on the visual experience of the subject.

In the first stage the subject sees a variety of shapes and forms. These are generated by the eye; they can also be experienced in a state of 'normal' active consciousness, by rubbing the eye, or in the case of migraine. They include phosphenes and form constants, the dots, wavy lines and grid-like webs that move across the field of vision, or across the darkness of a closed eye, when pressure is applied to the retina, when staring at blue light, or in the case of certain optical pathologies. As the term 'form constants' suggests, there are recurring forms among the entoptic imagery. They are classed or grouped differently by different researchers, but include:

1. lattice (or grid, honeycomb, filigree, web);
2. parallel lines;
3. dots;
4. curved lines (or 'fortification,' in which nested curved lines have an external zigzag or saw-tooth shape);
5. tunnel (or vortex, or spiral);
6. thin wavy lines;
7. zigzag lines.

In the second stage, the entoptic images are transformed by the brain into known experiences: a wavy line could become a snake, for example. Images also transform one into another: humans into animals and *vice versa*, for example. This part of the experience, in particular, is culturally-determined; the known experiences that shape the transformations vary. In the third stage, a person often has the experience of going through a tunnel, water or some other enclosed space, followed by more intense hallucinations (Lewis-Williams 2002, 128; Lewis-Williams & Pearce 2005, 50–52).

While of course it would be a mistake to interpret all cross-hatching, zigzags, 'fortification', tunnel or snake-like squiggles in art as entoptic imagery, it presents an interesting possibility, especially when a variety of such images are found together, and when they are found in combination with other imagery that could be related to religious trance. Returning to the PPNA palettes from Jerf el Ahmar, we find that this is the case. Along with the figural images discussed above — raptor, snake, scorpion, quadruped — are parallel lines, curved lines, dots, cross-hatching or grids, wavy lines, zigzags and concentric rings (a tunnel?). The whole range of common entoptic imagery is found. As stated above, I would not necessarily read these geometric forms as entoptic imagery but for the association with the figural imagery, which, as discussed above, arguably represents the Neolithic cosmos, and therefore may signal religious activity.

Thus both the figural and non-figural imagery present on Neolithic memory tools may refer to

Neolithic cosmologies and religious practice, though admittedly it is harder to demonstrate in the case of the non-figural imagery. Surely the nature of the struggle between humans and the wild was different from the early Neolithic to the late Neolithic, and from one region of the Near East to another. But the persistence of these archetypal images throughout the Neolithic attests to their continued power.

Cities, temples and writing

What is clear is that a wealth of memory technologies preceded writing in the Near East. It is also clear that some of these objects bore images associated with religious belief and practice. It is not yet clear why the imagery and the memory tools are connected; perhaps it suggests that the use of memory tools happened in a ritual context. Rossano (2009) asserts that consciousness-altering experiences trigger parts of the brain associated with memory; perhaps it is for this reason that such experiences and seals came to be associated. Stein (2006) argues that the association between seal designs and altered states of consciousness demonstrates that the seals functioned as personal amulets. Further exploration of this connection would surely lead to a better understanding of the use of seals, sealings and related materials during the Neolithic in the Near East.

We are left with the question of what happens to the glyptic and related imagery in the late fourth millennium BC when writing is first documented. The focal point of the new cities were large temple complexes, the priests of which seem to have held religious and political power, and also controlled a redistributive economy. This was no longer the religion of the Neolithic villages but one of a more complex order. The power of the local ritual specialists, and the power of the domestic over the wild, was co-opted by the temple. At the same time, they co-opted the process of storing memory, developing a writing system with techniques controlled by the temple scribes.

Not only does seal use continue alongside writing, but the imagery found on Neolithic glyptic likewise continues. The archetypal subject of a powerful human controlling dangerous forces of nature is seen most obviously in southern Mesopotamia in the third millennium as the 'nude hero' motif on cylinder seals (Costello 2010). The nude hero, however, is more closely linked to an increasingly secular kingship than to the religious specialist of the Neolithic period. The changing social, political and religious context is reflected in the altered motif.

Stein (2006) has argued that seal imagery from Syria in the third millennium can also be traced back to the Neolithic, and even to the Palaeolithic. She

argues that hallucinogenic states associated with shamanism were the original source of some of these images, though the image itself was retained longer than the associated practices.

The archetypal elements from the Neolithic imagery are preserved in Babylonian myth, as well, in particular in the story of Etana, a legendary Sumerian king.¹ This story, like my interpretation of the Neolithic imagery, revolves around life and fertility. The Sumerian king Etana desires a child, but must find the plant of birth in order for his wife to conceive. He is aided by an eagle, whom Etana saves after a conflict with a snake, the eagle's former friend. The eagle carries Etana on a journey. This journey is akin to soul flight: Etana communicates with animals, he flies through the air. And in the legend, it is following this flight that he has a visionary dream, in which he and the eagle fly to the heavens and meet the gods. Soul flight, and communication with spirits on behalf of the community, is the most important role of a shaman. This is not to say that Etana is meant to represent a shaman, but rather that elements of earlier religious belief may be retained in later myth. Etana and the eagle discover that the plant of birth is not on earth, but in the heavens. Armed with that knowledge, Etana and the eagle travel to the heavens to retrieve it (Kinnier Wilson 1985). In this story, we have the eagle, the snake, a plant signifying life, soul flight, a tiered cosmos and dangerous brushes with death, culminating in, if we understand the fragmented text to end happily, the renewal of life. The elements of the story may be very old, and may even give us a sense of an earlier myth that the Neolithic images refer to. However, in the Babylonian myth, it is the gods of the official pantheon who hold the plant that brings life, not the shaman, and it is the king to whom the gift of life is offered. Similar motifs are found in the Gilgamesh epic, in which Gilgamesh attains a plant offering eternal life, only to have it stolen by a snake. There we see the persistent connection between snakes and the renewal of life.

The examples above suggest that despite the significant changes in religious practice, in information storage and in the organization of society that accompanied the rise of the state, this particular visual tradition of the Neolithic and perhaps some of the beliefs it reflects persisted in the urban periods. However, the cities of southern Mesopotamia grew in tandem with centralized temples, as seen in the excavated temple sequence at Eridu. The organization of religion was thus very different from what we can posit of the earlier village communities. Lamberg-Karlovsky (2003) has argued that societies contemporary to the Late Uruk actively resisted the adoption of writing in order to resist the attendant social control of the Meso-

potamian city. They may also have been resisting the co-optation and replacement of their religious belief systems with that of the centralized temple.

Rather than viewing the development of writing as an evolutionary response to an increasingly complex bureaucracy, I propose that this milestone was the locus of a struggle for power, both power over information and memory, and power over religious belief and practice. Seeing the use of memory tools such as seals, sealings and writing as the results of choices made by different societies moves the agent of change from a self-propelled, evolutionary system to the people living in those societies. By taking into account the visual traditions during the Neolithic period, we can achieve a more nuanced, complex understanding of the contexts in which information was communicated, remembered and controlled in the years before writing was developed.

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Notes

1. I thank Reinhard Bernbeck for bringing the Etana myth to my attention.

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